



IT Corporation
3350 Monte Villa Parkway
Bothell, WA 98021-8972
Tel. 425.485.5000
Fax. 425.951.4808

A Member of The IT Group

Privileged and Confidential
Attorney Work Product

June 4, 2001
Project 826779 (03)

Ms. Kathryn Killinger
King County Office of the Prosecuting Attorney
500 Fourth Avenue, Suite 900
Seattle, Washington 98104

Re: Draft Report
Storm Sewer Catch Basin Sediments and Pavement Caulk Sampling
Lots 13 and 14, King County International Airport

Dear Kathryn:

This letter report presents a summary of the storm sewer catch basin sediments and pavement caulk sampling conducted by IT Corporation (ITC) at Lots 13 and 14 of the King County International Airport (KCIA). The purpose of the sampling was to characterize the catch basin sediments and pavement caulk for disposal purposes. ITC was requested to collect storm sewer system sediment samples and collect and analyze pavement caulk samples. The preliminary results were presented in our meeting of May 8, 2001.

Field Investigation

Four samples of sediment were collected from the storm drain system. The locations were selected to provide representative materials for different investigation areas. Sample locations included catch basins CB-1-F and CB-4-F, and manholes 1802 and MH-2-E. The storm drain sediment sampling locations are included on Figure 1. Storm drain sediments were analyzed for polychlorinated biphenyls (PCBs), and metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver).

Two "caulk" samples were also collected from concrete joint areas. The caulk sample locations are shown on Figure 1. The caulk samples were analyzed for PCBs.

Analytical Results

Storm drain sediments contained elevated concentrations of cadmium (21.9, 2.70, and 3.94 mg/kg) and lead (276, 294, 257 mg/kg) at CB-1-F, CB 1802, and CB-4-F

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Ms. Kathryn Killinger
June 4, 2001
Page 2

Project 826779 (03)

(respectively). The cadmium and lead concentrations were greater than MTCA Method A cleanup levels for residential soils. Three of the storm drain sediment samples (CB-1-F, CB 1802, and MH-2-E) reported PCBs (Aroclors 1254, 1260). The PCB concentrations in these three samples were all less than 1 mg/kg, which is the Method A cleanup level. PCBs were non-detect in the sediment sample from CB-4-F. Results are summarized in Table 1.

The PCBs analysis of the caulk samples reported Aroclors 1254 and 1260, at total concentrations less than 1 mg/kg in each of the samples. Sample caulk 1 reported a total of 0.83 mg/kg and sample caulk 2 reported a total of 0.75 mg/kg PCBs.

SUMMARY

Storm drain sediments showed elevated metals concentrations and disposal should be restricted to facilities permitted to accept these materials (e.g., a permitted lined landfill). The observed build-up of sediments in the storm drain system was limited. PCB concentrations were less than 1 mg/kg (parts per million) in all samples (sediments and caulk), less than MTCA Method A cleanup levels for soils.

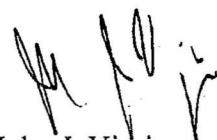
If you have any questions or if we can provide further assistance, please give us a call.

Sincerely,

IT CORPORATION



Daniel A. Balbiani, PE
Project Director



John J. Virgin
Senior Environmental Scientist

Attachments: Figure 1
Table 1

Table 1
Catch Basin Sediment and Caulk Sampling - Lots 13 and 14
King County International Airport
Seattle, Washington

Sample Number	Matrix	Concentration ^a									
		Arsenic	Barium	Cadmium	Chromium	Mercury	Lead	Selenium	Silver	Aroclor 1254	Aroclor 1260
CB-1-F	Sediment	8.94	172	21.9	78.9	ND (0.532)	276	2.08	ND (0.964)	0.0805	0.121
CB 1802	Sediment	5.25	55.8	2.70	64.8	ND (0.200)	294	ND (0.407)	ND (0.407)	0.0535	0.0539
CB-4-F	Sediment	9.85	89.7	3.94	74.8	ND (0.200)	257	0.419	ND (0.410)	ND (0.025)	ND (0.025)
MH-2-E	Sediment	2.95	30.5	0.411	11.5	ND (0.200)	33.4	ND (0.370)	ND (0.370)	0.528	ND (0.125)
Caulk 1	Caulk	NA	NA	NA	NA	NA	NA	NA	NA	0.392	0.438
Caulk 2	Caulk	NA	NA	NA	NA	NA	NA	NA	NA	0.290	0.461

NOTE: ND = analyte not detected at or above the reporting limit. Reporting limit in parentheses.
NA = not analyzed. Bold indicates detected compound.

^a Concentration of sediment samples reported in mg/kg.

IMAGE Files: <No Images>
XREF Files: <No Xrefs>

/ N:\Project\final\KCProsecutor\826779\Drawings\80LOTS13_14CB.dwg Thu, 07/Jun/01 02:43pm MDT
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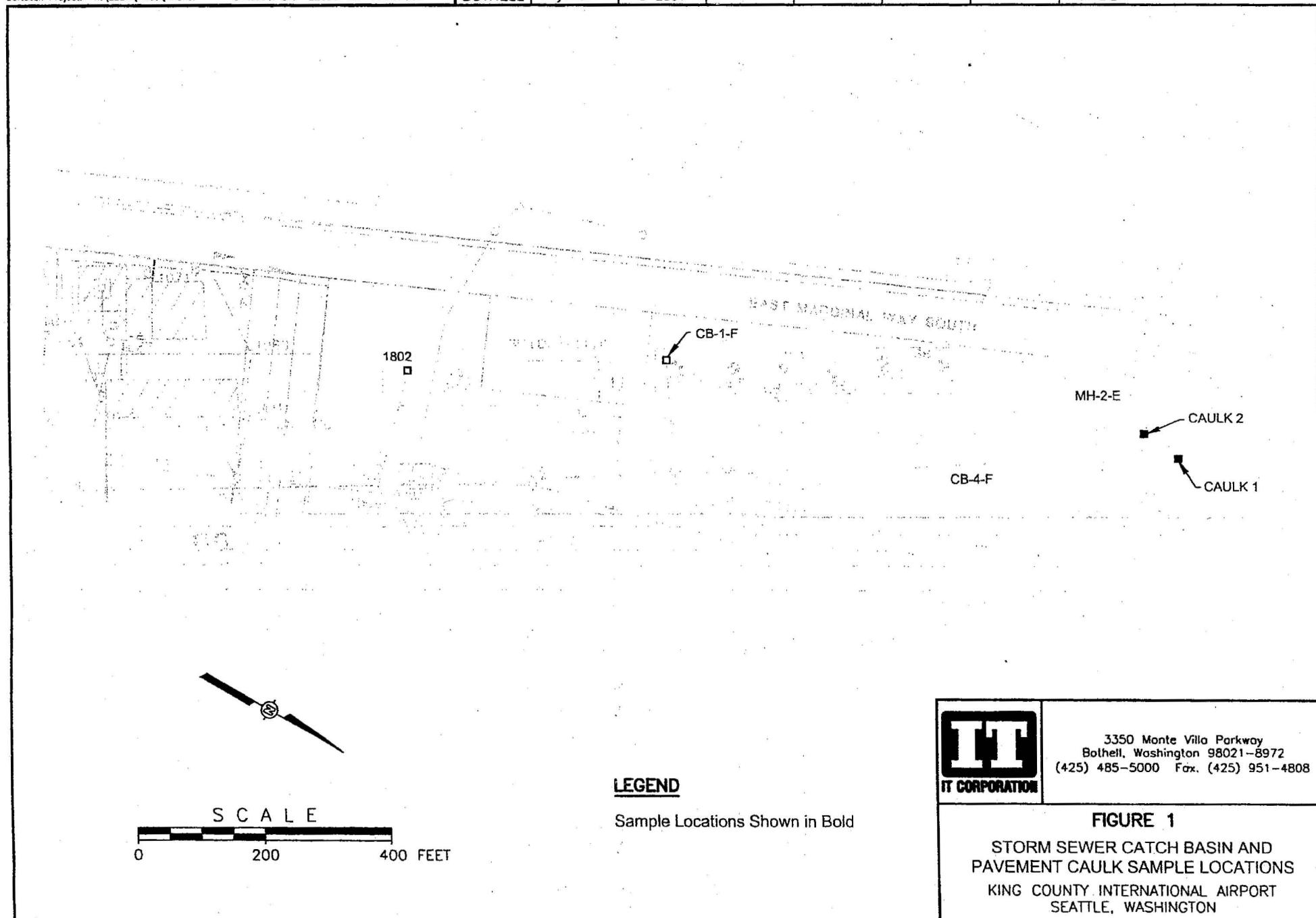
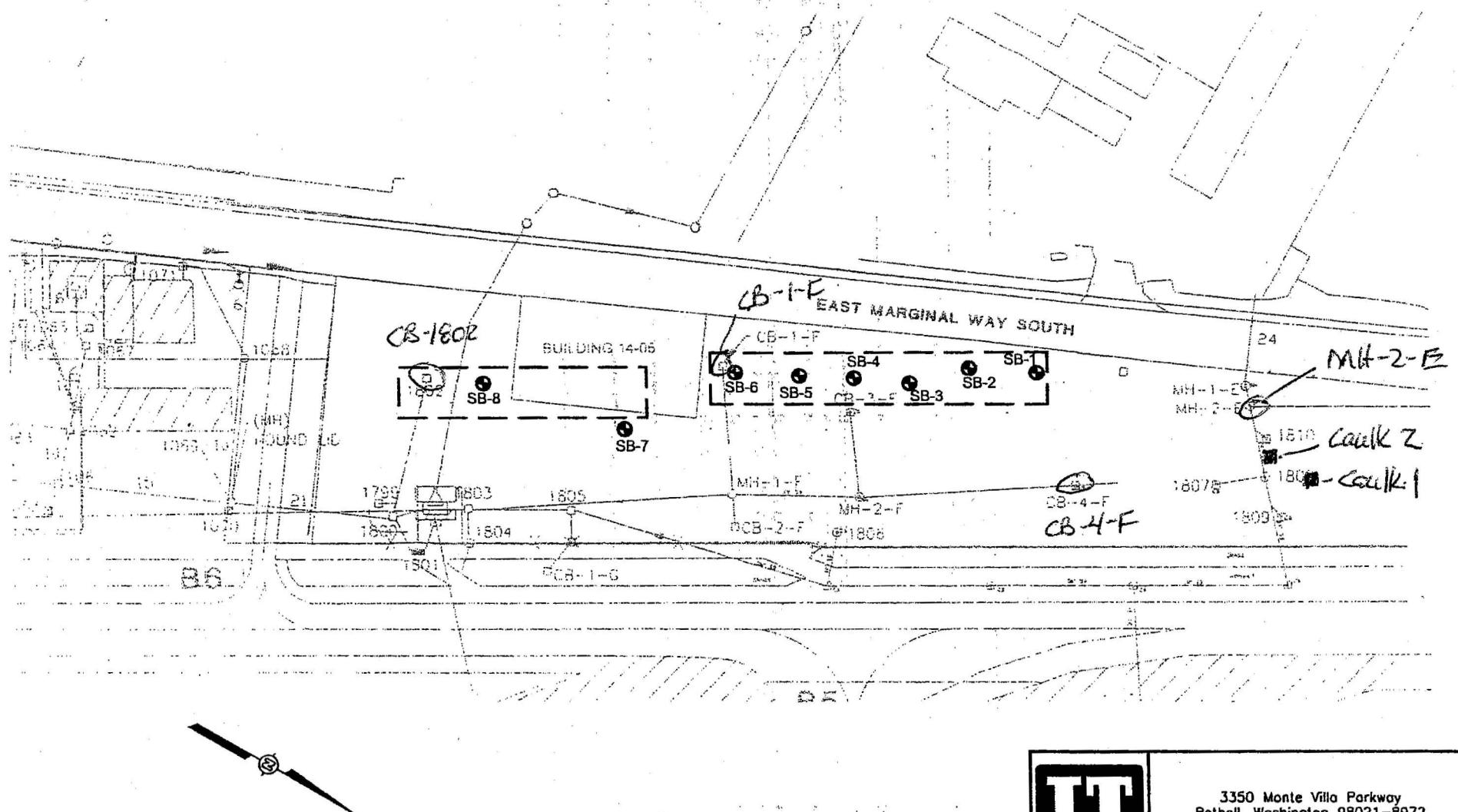


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XREF Files: <No Xrefs>

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BOTHELL	Avila	6-2001		826779



SCALE
0 200 400 FEET

LEGEND

SB-1 ● Soil Boring Location



3350 Monte Villa Parkway
Bothell, Washington 98021-8972
(425) 485-5000 Fax. (425) 951-4808

FIGURE 1

PRELIMINARY SOIL AND GROUNDWATER
INVESTIGATION
KING COUNTY INTERNATIONAL AIRPORT
SEATTLE, WASHINGTON

Table 1
Catch Basin Sediment and Caulk Sampling - Lots 13 and 14
King County International Airport
Seattle, Washington

Sample Number	Matrix	Concentration ^a									
		Arsenic	Barium	Cadmium	Chromium	Mercury	Lead	Selenium	Silver	Aroclor 1254	Aroclor 1260
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CB-4-F	Sediment	9.85	89.7	3.94	74.8	ND (0.200)	257	0.419	ND (0.410)	ND (0.025)	ND (0.025)
MH-2-E	Sediment	2.95	30.5	0.411	11.5	ND (0.200)	33.4	ND (0.370)	ND (0.370)	0.528	ND (0.125)
Caulk 1	Caulk	NA	NA	NA	NA	NA	NA	NA	NA	0.392	0.438
Caulk 2	Caulk	NA	NA	NA	NA	NA	NA	NA	NA	0.290	0.461

NOTE: ND = analyte not detected at or above the reporting limit. Reporting limit in parentheses.
NA = not analyzed. Bold indicates detected compound.

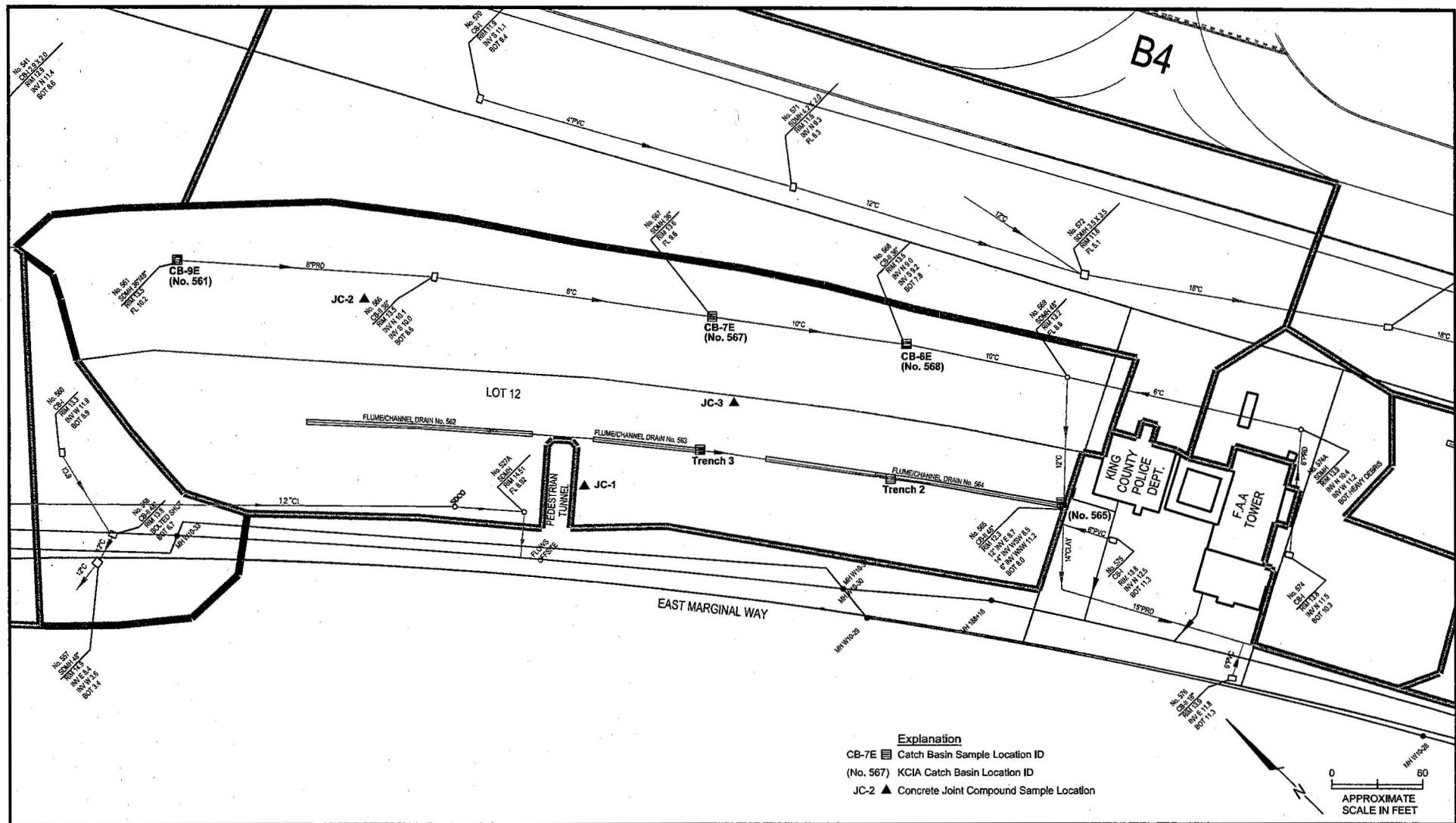
^a Concentration of sediment samples reported in mg/kg.

Table

Catch Basin Sediment and Concrete Joint Compound PCB Sampling Results
Lot 12 at King County International Airport
Seattle, Washington

Sample Number/Location	Date Collected	Sample Type	Concentration ($\mu\text{g}/\text{kg}$)		Comments/Observations
			Aroclor 1254	Aroclor 1260	
CB-6E	7/22/2005	Sediment	<25.0	190	Approximately 4 inches of sediment in catch basin
CB-7E	7/22/2005	Sediment	<25.0	250	Approximately 1-2 inches of sediment in catch basin
CB-9E	7/22/2005	Sediment	<25.0	141	Approximately 3 inches of sediment in catch basin
Trench 2	7/22/2005	Sediment (comp)	<25.0	2,670	composite sample, < 1 inch of material on bottom
Trench 3	7/22/2005	Sediment (comp)	<25.0	414	Composite sample, collected from beneath grate before trench goes beneath parking lot.
CB-565	5/21/2000	Sediment	<10	50	Sample collected by Boeing from catch basin at south end of trench drain.
JC-1	7/22/2005	Joint Compound	<25.0	529 ⁽¹⁾	black , varies from competent to highly deteriorated
JC-2	7/22/2005	Joint Compound	<25.0	171 ⁽¹⁾	black , varies from competent to highly deteriorated
JC-3	7/22/2005	Joint Compound	<25.0	1690 ⁽¹⁾	black , varies from competent to highly deteriorated
NBF-SP47-001109-H	11/9/2000	Joint Compound	2,200	1,700	Sample collected by Boeing. Located at south end of trench drain.

Notes:
Concentrations are on a dry weight basis unless otherwise noted.
(1) Joint compound results are on an as-received (wet weight) basis.



01 August 2005

Dan Balbiani
PES Environmental
9 Lake Bellevue Dr Ste 108
Bellevue, WA/USA 98005
RE: KCIA - Lot 12

Enclosed are the results of analyses for samples received by the laboratory on 07/22/05 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Sandra Yakamavich".

Sandra Yakamavich
Project Manager



CHAIN OF CUSTODY REPORT

NCA CLIENT: PES
REPORT TO: Dan Balbiani
ADDRESS: 9 Lake Bellevue Drive, Suite 108
 Bellevue, WA 98005
PHONE: 425-637-1905 **FAX:** 425-637-1907
PROJECT NAME: KCIA - LOT 12
PROJECT NUMBER: 815.011.01.001
SAMPLED BY: Erin McQuillan

INVOICE TO:
 Kirsti Goddwin-Cooper
 King County Prosecutors Office

P.O. NUMBER:

Work Order #: B5G0492

TURNAROUND REQUEST

In Business Days *

<input checked="" type="checkbox"/>	1	2	3	4	5	6	7	8	9	10	11
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Petroleum Hydrocarbon Analyses

<input checked="" type="checkbox"/>	1	2	3	4	5	6	7	8	9	10	11
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OTHER

Specify:

* Turnaround Requests less than standard may incur back charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	PCB 8882	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	LOCATION / COMMENTS	NCA WO ID
1 CB-6E	7-22-05 / 1430	X		S	1		01
2 CB-7E	/ 1200	X		S	1		02
3 CB-9E	/ 1230	X		S	1		03
4 Trench 2	/ 1100	X		S	1		04
5 Trench 3	/ 1130	X		S	1		05
6 JC-1	/ 1330	X		O	1		06
7 JC-2	/ 1400	X		O	1		07
8 JC-3	▷ / 1430	X		O	1		08
9							
10							

RELEASED BY: *Erin McQuillan* **DATE:** 7/22/05 **RECEIVED BY:** *Cathy Gamble* **DATE:** 7/22/05
PRINT NAME: Erin McQuillan **FIRM:** PES **TIME:** 1600 **PRINT NAME:** Cathy Gamble **FIRM:** NCA **TIME:** 16:00

RELEASED BY: **DATE:** **RECEIVED BY:** **DATE:**
PRINT NAME: **FIRM:** **TIME:** **PRINT NAME:** **FIRM:** **TIME:**

ADDITIONAL REMARKS: **TEMP:** **w/o**
COC REV 09/04 **45°** **PAGE 1 OF 1**

PES Environmental
9 Lake Bellevue Dr Ste 108
Bellevue, WA/USA 98005

Project: KCIA - Lot 12
Project Number: 815.011.01.001
Project Manager: Dan Balbiani

Reported:
08/01/05 18:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CB-6E	B5G0492-01	Soil	07/22/05 14:30	07/22/05 16:00
CB-7E	B5G0492-02	Soil	07/22/05 12:00	07/22/05 16:00
CB-9E	B5G0492-03	Soil	07/22/05 12:30	07/22/05 16:00
Trench 2	B5G0492-04	Soil	07/22/05 11:00	07/22/05 16:00
Trench 3	B5G0492-05	Soil	07/22/05 11:30	07/22/05 16:00
JC-1	B5G0492-06	Other dry	07/22/05 13:30	07/22/05 16:00
JC-2	B5G0492-07	Other dry	07/22/05 14:00	07/22/05 16:00
JC-3	B5G0492-08	Other dry	07/22/05 14:30	07/22/05 16:00

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.


Sandra Yakamovich

Sandra Yakamovich, Project Manager

PES Environmental
9 Lake Bellevue Dr Ste 108
Bellevue, WA/USA 98005

Project: KCIA - Lot 12
Project Number: 815.011.01.001
Project Manager: Dan Balbiani

Reported:
08/01/05 18:02

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
CB-6E (B5G0492-01) Soil Sampled: 07/22/05 14:30 Received: 07/22/05 16:00									
Dry Weight	52.0	1.00	%	1	5G26008	07/26/05	07/27/05	BSOPSPL003R08	
CB-7E (B5G0492-02) Soil Sampled: 07/22/05 12:00 Received: 07/22/05 16:00									
Dry Weight	69.3	1.00	%	1	5G26008	07/26/05	07/27/05	BSOPSPL003R08	
CB-9E (B5G0492-03) Soil Sampled: 07/22/05 12:30 Received: 07/22/05 16:00									
Dry Weight	33.5	1.00	%	1	5G26008	07/26/05	07/27/05	BSOPSPL003R08	
Trench 2 (B5G0492-04) Soil Sampled: 07/22/05 11:00 Received: 07/22/05 16:00									
Dry Weight	45.6	1.00	%	1	5G26008	07/26/05	07/27/05	BSOPSPL003R08	
Trench 3 (B5G0492-05) Soil Sampled: 07/22/05 11:30 Received: 07/22/05 16:00									
Dry Weight	27.2	1.00	%	1	5G26008	07/26/05	07/27/05	BSOPSPL003R08	

North Creek Analytical - Bothell

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Sandra Yakamavich, Project Manager

PES Environmental
9 Lake Bellevue Dr Ste 108
Bellevue, WA/USA 98005

Project: KCIA - Lot 12
Project Number: 815.011.01.001
Project Manager: Dan Balbiani

Reported:
08/01/05 18:02

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 5G27062: Prepared 07/27/05 Using EPA 3550B

Matrix Spike Dup (5G27062-MSD2)						Source: B5G0492-03				
Aroclor 1016	135	74.6	ug/kg dry	251	ND	53.8	47-134	5.05	35	
Aroclor 1260	371	74.6	"	251	141	91.6	22-171	13.3	35	
Surrogate: TCX	16.6	"		20.1		82.6	39-139			
Surrogate: Decachlorobiphenyl	19.6	"		20.1		97.5	33-163			

North Creek Analytical - Bothell

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Sandra Yakamavich, Project Manager

PES Environmental
9 Lake Bellevue Dr Ste 108
Bellevue, WA/USA 98005

Project: KCIA - Lot 12
Project Number: 815.011.01.001
Project Manager: Dan Balbiani

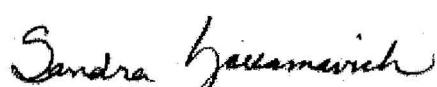
Reported:
08/01/05 18:02

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD RPD	Limit	Notes
Batch 5G26008: Prepared 07/26/05 Using Dry Weight										
Blank (5G26008-BLK1)										
Dry Weight		100	1.00	%						

North Creek Analytical - Bothell

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Sandra Yakamovich

Sandra Yakamovich, Project Manager

PES Environmental
9 Lake Bellevue Dr Ste 108
Bellevue, WA/USA 98005

Project: KCIA - Lot 12
Project Number: 815.011.01.001
Project Manager: Dan Balbiani

Reported:
08/01/05 18:02

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

North Creek Analytical - Bothell

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sandra Yakamovich

Sandra Yakamovich, Project Manager

Dumaliang, Peter

From: Dan Balbiani [dbalbiani@pesenv.com]
Sent: Thursday, August 04, 2005 11:34 AM
To: Renaud, Rick
Subject: RE: Lot 12 Sampling

Attachments: CB_Sediment_JC_Results-080305.xls



CB_Sediment_JC_R
esults-080305....

Rick,

Attached is a table summarizing the Lot 12 catch basin and concrete joint compound sampling results. I've also included some of the previous Boeing sampling results for you to make an easy comparison. A couple of additional notes;

- 1) We attempted to sample CB-565 (previously sampled by Boeing) but there was only a trace of sediments present in the bottom of the catch basin.
- 2). There was not a significant accumulation of sediments in the trench drain except at points where it extended underneath the paved parking lot surface.
- 3) We did a preliminary visual assessment of the presence of joint compound in the expansion joint between the concrete panels. Based on our observations, it appears that the joint compound is present in about 5% + of the expansion joints.

Overall, the results appear to be consistent with the previous Boeing sampling. It is interesting to note that we did not detect Aroclor 1254 in any of our samples on Lot 12. Boeing's previous joint compound sample detected 2,200 ug/kg of Aroclor 1254 from their Lot 12 joint compound sample and KCIA's previous sampling on Lots 13/14 also detected Aroclor 1254 at 50 to 500 ug/kg.

Let me know if you need anything further or want to discuss this.

Dan

-----Original Message-----

From: Dan Balbiani [mailto:dbalbiani@pesenv.com]
Sent: Monday, July 25, 2005 1:42 PM
To: Rick Renaud (E-mail)
Subject: Lot 12 Sampling

Rick,

Erin completed the sampling last Friday. She collected samples of catch basin sediments from CB-6E, CB-7E, and CB-9E and 2 samples of accumulated sediments from the concrete trench drain (Trench 2 and Trench 3). Three samples of "joint caulking" were collected as well. The samples were delivered to North Creek Analytical for analysis of PCBs using EPA method 8082. The results will be available by the end of business on August 5.

Erin also walked the alignment of most of the concrete joints at the site to assess the visible extent of caulking. I should be able to send you a map with sample locations and her estimate of caulking in the next couple of days (she's out in the field today).

Any questions, give me a call.

Dan

